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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,518	08/27/2003	Kenji Nishi	108157.01	3973
25944	7590	02/26/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			MOHAMEDULLA, SALEHA R	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/648,518

Applicant(s)

NISHI, KENJI

Examiner

Saleha R. Mohamedulla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003 and 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/736,423.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/27/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

Claims 11-18 are pending.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 11-18 are rejected under 35 U.S.C. 102(e) as being anticipated by US# 6,204,912 to Tsuchiya et al.

Tsuchiya teaches an exposure method and mask that can reduce the extent of an artificial contrast gap that occurs in stitching portions (col. 5, lines 30-35) and prevent deterioration of LCD image quality (col. 5, lines 35-38). In the exposure method, a first layer exposure pattern having a first plurality of unit patterns is formed on a photosensitive substrate, and the first plurality of unit patterns are connected through at least one first layer stitching portion. A second layer exposure pattern having a second plurality of unit patterns is formed on the photosensitive substrate overlaying the first layer exposure pattern, and the second plurality of unit patterns are connected through at least one second layer stitching portion. In forming the second layer, the second layer stitching portion is formed offset from the first layer stitching portion (col. 5, lines 38-50). Tsuchiya also teaches that a first layer exposure pattern having a

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first plurality of unit patterns is formed on a photosensitive substrate, and the first plurality of unit patterns are connected through at least one first layer stitching portion. A second layer exposure pattern having a second plurality of unit patterns is formed on the photosensitive substrate overlaying the first layer exposure pattern, and the second plurality of unit patterns are connected through at least one second layer stitching portion. A contrast between the second plurality of unit patterns overlaying the first plurality of unit patterns is smoothed in accordance with the position of the second layer overlaying the first layer (col. 50-65). The transfer pattern of Tsuchiya is designed based on design data of the transfer pattern.

Tsuchiya also teaches that the exposure apparatus includes a controller. Tsuchiya teaches that the controller 12 controls the overall exposure apparatus as well as the variable blind driving unit 6a, the mask stage MS and the plate controller 15. The controller 12 sets the illumination area by changing the size of the aperture of the variable blind 6 through the variable blind driving unit 6a corresponding to pattern data of the masks M1-M4. The controller 12 determines the position of the mask through the mask stage MS based on alignment data of the masks M1-M4 detected by the alignment optical system (not shown). The controller 12 also directs the plate controller 15 to control the position of the XY stage 17c in a stepwise manner based on the mask pattern data. The controller 12 supplies the detected displacement of the mask M1 (or is one of M2-M4) with respect to the height and the inclination relative to the optical axis AX to the plate controller 15. The plate controller 15 then drives the leveling holder 17a and the Z stage 17b through the driving units based on the displacement so that the photosensitive substrate P is positioned in a conjugate position with respect to the mask M1 (or one of M2-M4). Specifically, Figure 3 illustrates a plurality of masks M1-M4 mounted on the mask stage MS,

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which are successively aligned with the optical axis AX by the controller 12. The respective patterns (referred to as unit patterns) formed on the masks M1-M4 are successively exposed onto the predetermined areas on the photosensitive substrate P. The controller 12 sets the aperture of the variable blind 6 through the variable blind driving unit 6a based on the mask pattern data. The controller 12 repeatedly moves and stops the photosensitive substrate P, through the plate controller 15, to expose the unit pattern A1 formed on the mask M1. The controller 12 then transfers the unit pattern B1 formed on the mask M2 onto the photosensitive substrate P adjacent the unit pattern A1. The unit patterns A1 and B1 transferred onto the photosensitive substrate P are connected through stitching JN1. (col. 9, line 30 – col. 10, line 10). Therefore, Tsuchiya teaches the limitations of claims 11, 12, 14-16 and 18. It is inherent that at the starting and ending of the scanning and exposing, an opening and a closing operation of the aperture stop are synchronously performed with the scanning and exposing. The figures show the trapezoidal shape of the exposure amount distribution.

#### ***Citation of Relevant Art***

2. US# 6,653,025 to Nishi is cited as being the patent that issued from the parent application.


#### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Saleha Mohamedulla whose telephone number is (571) 272-1387. The Examiner can normally be reached Monday-Friday, from 8:00 AM to 4:30 PM.

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**MOHAMEDULLA, SALEHAR**  
**PATENT EXAMINER**

February 6, 2004